



Common Equine Athletic Injuries

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Winter Seminar Series

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Racing - Thoroughbreds, Quarter Horses, Standardbreds

- Bucked Shins
 - Aka "Dorsal Metacarpal Disease"
 - Young horses in intense work, resulting in bone 'fatigue'
 - Cannon bone continues to harden until 6 years old
 - Stress fractures in cannon bone
 - Strain on bone: Galloping >> Trotting
 - Diagnosis:
 - History – acute onset lameness (usually left forelimb in racing horses)
 - Radiographs – see fracture line or bony proliferation
 - Treatment: Conservative - Cold therapy, Rest, NSAIDs until sound; Surgical – Cortical Drilling and Screw Placement
- Prevention: Modified Classical Training Method

Racing, flat & hurdles - Thoroughbreds, Standardbreds

- Carpus
 - Carpal slab fractures – Common
 - 3rd carpal bone
 - Signs may be subtle – mild lameness and/or joint effusion
 - Chip fractures - Common
 - Usually secondary to osteoarthritis (prognosis depends on degree of OA)
 - Surgical removal of fragment with follow-up intra-articular injections
 - Accessory carpal bone fractures
 - National Hunt Horses/Steeplechasers – after a fall
 - Treatment is prolonged rest, unless there are chips – surgical removal
 - Prognosis: good



Hunter/Jumpers, Eventing

- Forelimb Suspensory Desmitis – most common
 - May not be noticeable until the damage is severe
 - Origin, body, branch
 - Body and branch lesions easier to palpate
 - Origin usually ID'ed based on diagnostic nerve blocking pattern
 - Diagnosis:
 - Blocking pattern: Lateral palmar nerve block (origin & body); Low 4-point nerve block (branches)
 - Radiographs: Origin injuries may involve the bone – avulsion fragments, sclerosis
 - Ultrasound: May see core lesions, size increase, fiber pattern disruption
 - Nuclear Scintigraphy (bone scan): Increased uptake in SL during 'soft tissue phase'
 - Treatment:
 - Rest, NSAIDs, Controlled Exercise, Regenerative Medicine, ESWT, Supportive Shoeing (esp for branch injury)

Racing - Thoroughbreds, Standardbreds, Hunters/Jumpers

- Sesamoiditis
 - Usually secondary to Suspensory Branch Desmitis
 - Lameness may be persistent or transient, painful to lower limb flexion
 - Diagnosis:
 - Thickened, warm, painful SL branches
 - Improved (not 100%) lameness by blocking fetlock joint; 100% with low 4-point nerve block
 - Radiographs: bone loss, bony reaction along margins
 - Treatment:
 - Rest, NSAIDs, supportive shoeing, ESWT



All disciplines - No breed predilection

- Deep Digital Flexor Tendonitis in Fetlock Region
 - Acute enlargement of Digital Sheath + Lameness
 - Diagnostics:
 - Positive to flexion
 - Lameness worsens on soft surfaces
 - Blocks to Low 4-Point Nerve Block
 - Ultrasound to confirm
 - Types of Lesions: tendon swelling, 'core' lesions, mineralization, marginal tears
 - Tendon swelling – Mild injury, typically responds well to conservative mgmt
 - Core lesions – Larger lesion = more severe lameness; return to function variable
 - Treatment may involve REGENERATIVE THERAPIES
 - Mineralization – Chronic injury, usually also chronic lameness
 - Margin tears – Suspected with tendon swelling but failure to respond to rest; Surgical exploration to confirm/treat

All disciplines - Thoroughbreds, Standardbreds

- Superficial Digital Flexor Tendonitis "Bowed Tendon"
 - Risk Factors:
 - HIGH rate of occurrence in Racing TBs (flat & hurdles) > Eventing horses
 - May have some genetic heritability (TBs & STBs)
 - Over 15yo + sedentary = spontaneous lesions
 - Poor conformation
 - Unfit horse + Strenuous exercise
 - Forelimb >> Hindlimb
 - Mid-cannon region most common location
 - *NOT talking about a "bandage bow" – swelling in subcutaneous tissues from improperly placed bandage or boot.*



All disciplines - Thoroughbreds, Standardbreds

- Superficial Digital Flexor Tendonitis
 - Signs:
 - **Lameness** variable based on severity of lesion
 - **Swelling** most common in acute phase – cannot 'isolate' the SDFT
 - **Heat** – earliest & most subtle sign of injury; Do Not assess right after bandages removed. Thermography can be helpful diagnostic for this.
 - **Thickening** of tendon – can 'isolate' SDFT, but size is increased. Often needs to be compared to 'normal' limb.
 - **Sensitivity** – Repeatable pain response to palpation = flinching. Not very specific test.
 - **Bulging/Bowed profile** – Slight injury bow may be focal; Severe injury/rupture of SDFT whole leg may look bowed backwards/hyperextended
 - Treatments:
 - NSAIDs, Systemic Corticosteroids, Rest with handwalking, Cold therapy, Poultics/Support bandage, Course of Adequan, *Regenerative Therapies
 - Recheck Ultrasound in 1 month, then every 2 months onward until full healing

Endurance, Trail, Hunters/Jumpers - No breed predilection

- Collateral Desmitis of the Coffin Joint (DIPJ)
 - Maintains stability of the coffin joint
 - Coffin joint synovitis/effusion + poor response to joint injection → suspect collateral desmitis DIPJ
 - Diagnosis:
 - Blocking pattern can be variable but most are desensitized by abaxial nerve block
 - Ultrasound: Increased size, fiber pattern disruption (only proximal 1/3)
 - Radiograph: Sclerosis at insertion of ligaments on coffin bone (often incidental)
 - MRI: Large portion of ligaments are not visible by ultrasound
 - Treatment:
 - Rest, NSAIDs, Therapeutic shoeing, Controlled exercise, ESWT, *Regenerative Medicine



Racing - Thoroughbreds, Standardbreds, QH

- Curb
 - Soft Tissue Swelling of the distal, plantar (backside) of the hock (tarsus)
 - Convex side profile to back of hock, below point of hock
 - Risk factors:
 - Conformation – Sickie-hocked or Cow-hocked
 - Signs:
 - Lameness – May or may not be present
 - Worse if: involving DDFT or long plantar ligament, SDFT injury diffuse, or multiple soft tissues involved
 - Convex profile – is it firm, or is it 'mushy' (chronic v. acute)
 - Sensitivity to palpation – usually only when acute injury
 - Diagnosis:
 - Localize lesion – block out lower hock joints to rule them out; local infiltration
 - Ultrasonography
 - Treatment:
 - If no lameness, inject peri-tendinous with steroids
 - If lame, then Rest is key

Reining, Barrel Racing, Roping - Quarter Horses, Appaloosas

- Thoroughpin – Tarsal Sheath Effusion, or Tenosynovitis
 - Causes:
 - Idiopathic – straight hock conformation, Western Performance horses, WBs, extended stall rest or transport – no lameness, resolves spontaneously
 - Traumatic – acute inflammation and bleeding into sheath causes distention
 - Interference of contralateral limb; hitting a hard object while jumping
 - Lameness; can lead to chronic distention or adhesion
 - Lateral Digital Flexor Tendonitis – over-stretching the tendon as it passes over the bone
 - Diagnosis:
 - Lameness, with positive flexion of hock
 - Radiography – Rule out fractures of structures of the hock
 - Ultrasonography – thickened synovial membrane, hemorrhage, tears or fraying in LDFT, mineralization
 - Treatments:
 - Rest with hand-walking, NSAIDs, topical DMSO or cold therapy, injection of HA into sheath



Reining, Barrel Racing, Roping - Quarter Horses, Appaloosas

- Peronius Tertius Rupture
 - Part of the 'reciprocal apparatus' of the hindlimb
 - Tendinous muscle wraps from lateral tibia to dorsal tarsus (hock)
 - Rupture caused by hyperextension trauma
 - Hock is able to be extended when stifle is flexed
 - Gastrocnemius tendons (m. & l. digital flexor tendons) & SDFT look dimpled and loose
 - Hock may extend more than usual at the walk, toe may drag, and horse may 'swing' the lower limb forward. At trot, horse appears severely lame.
 - Diagnostics: Signs are 'classic', but ultrasound can identify location of rupture
 - Treatment:
 - 3 months strict stall rest, then slow return to work – good prognosis for return to soundness.
 - Delayed diagnosis without restriction of exercise can lead to chronic mechanical lameness.

Dressage- Warmbloods

- Suspensory Desmitis (Body vs. Branch)
 - Body lesions – signs include: heat, edema around ligament, enlargement of ligament, pain on palpation, lameness
 - Most common site of injury is at the bifurcation
 - Diagnosis: based on signs, diagnostic analgesia, ultrasound
 - Moderate correlation between severity of ultrasound findings and prognosis
 - High rate of recurrence
 - Treatment: systemic NSAIDs, systemic corticosteroids, hydrotherapy, controlled exercise, ESWT
 - Surgery can be done to relieve compression – Proximal Suspensory Fasciotomy & Neurectomy
 - Branch lesions – Signs are similar as to body lesions but can involve medial, lateral, or both
 - If scar tissue/'adhesions' can be seen extending between branches, poor prognosis
 - Diagnosis: signs, Low 4-point nerve block, Ultrasound
 - Ultrasound lesions can persist long past resolution of problem – size of branch more important.
 - Treatment: same as above, but surgery is not option
 - This is NOT the same as DSLD (Degenerative Suspensory Ligament Desmopathy)

Questions?